



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,126	03/24/2004	Anurag K. Gupta	CML01513H	4551

  

22917	7590	03/06/2008
MOTOROLA, INC.		
1303 EAST ALGONQUIN ROAD		
IL01/3RD		
SCHAUMBURG, IL 60196		

  

EXAMINER	
SAINT CYR, LEONARD	

  

ART UNIT	PAPER NUMBER
2626	

  

NOTIFICATION DATE	DELIVERY MODE
03/06/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com  
APT099@motorola.com

**Office Action Summary**

Application No.

10/808,126

Applicant(s)

GUPTA ET AL.

Examiner

LEONARD SAINT CYR

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 3, 5, 7 - 19 is/are rejected.
- 7) ☒ Claim(s) 4 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 3, 5, 7 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston et al., (US PAP 2003/0065505).

As per claims 1, 7, 8, 11, 14, 16, 18, and 19, Johnston et al., teach a method for operating a system-resource-based multi-modal input fusion, the method comprising the steps of:

receiving a plurality of user inputs (paragraph 5, lines 1 – 5);

creating sets of similar user inputs (“sets of competing multimodal interpretations”; paragraph 13, last three lines).

Johnston et al., do not specifically teach determining an amount of system resources available; wherein a number of similar user inputs within a set is based on the amount of system resources available. However, since Johnston et al., teach that the number of parses to be considered is exponentially relative to the number of input elements and the number of interpretations the input elements have. This complexity is manageable when the inputs yield only n-best results for small n (paragraph 12, lines 12 – 16). One having ordinary skill in the art at the time the invention was made would

have found it obvious to determine an amount of system resources available in Johnston et al., since the complexity would quickly gets out of hand if the inputs are sizable lattices with associated probabilities (paragraph 12, lines 16 – 18).

As per claims 2, 12, 17, Johnston et al., further disclose converting the plurality of user inputs into Typed Feature Structures (TFSs); and wherein the step of creating sets of similar user inputs comprises the step of creating sets of similar TFSs, wherein the number of TFSs within a set is based on the amount of system resources available (“typed feature structures by the natural language and gesture interpretations systems”; paragraph 19, lines 1 – 4).

As per claims 3, 13, Johnston et al., further disclose converting the plurality of user inputs into Typed Feature Structures comprises the step of converting the plurality of user inputs into a plurality of attribute value pairs and confidence scores (“only n-best results ...associated probabilities”; paragraph 12, lines 13 – 18).

As per claims 5, 10, Johnston et al., further suggest that a TFS is included in a set if it has a context score, content score greater than a threshold (n-best lists of feature structure from the spoken inputs and gesture inputs suggest using a threshold; paragraph 10, lines 6 – 11).

As per claims 9, 15, Johnston et al., further suggest determining an amount of memory or processing power available ("number of parsers"; paragraph 12, lines 12 – 14).

***Allowable Subject Matter***

3. Claims 4, and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 4, Johnston et al., do not teach nor suggest a TFS is included in a set if it has a content score greater than a threshold, wherein

$$\text{ContentScore(TFS)} = f(N, N.\text{sub.A}, N.\text{sub.R}, N.\text{sub.M}, \text{CS}(i)/i = 1N)$$

where N=number of attributes in TFS,

N.sub.A=number of attributes in TFS having a value,

N.sub.R=number of attributes in TFS with redundant values,

N.sub.M=number of attributes in TFS with missing explicit reference, and

CS(i)=confidence score of the i.sup.th attribute of TFS.

As to claim 6, Johnston et al., do not teach nor suggest that the step of creating sets of similar TFSs, wherein a TFS is included in a set if it has a context score greater than a threshold wherein

$$\text{ContextScore(TFS)} = h(D.\text{sub.m}, \text{RS(TFS, TFS.sub.m)})$$

where

$D.sub.m$  = number of turns elapsed since receiving TFS.sub.m from a modality

RS = Relationship Score between TFS (current input) and TFS.sub.m

TFS.sub.m = a TFS received  $D.sub.m$  turns ago.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO -892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/808,126

Page 6

Art Unit: 2626

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LS

02/27/08

  
**RICHEMOND DORVIL**  
**SUPERVISORY PATENT EXAMINER**